```
RESULT 3
US-10-303-266-11
; Sequence 11, Application US/10303266
; Publication No. US20040101848A1
; GENERAL INFORMATION:
;  APPLICANT: Donna T. Ward
;  APPLICANT:  Alexander H. Borchers
;  APPLICANT:  Kenneth W. Dobie
;  TITLE OF INVENTION: MODULATION OF GLUCOSE TRANSPORTER-4 EXPRESSION
;  FILE REFERENCE: RTS-0426
;  CURRENT APPLICATION NUMBER: US/10/303,266
;  CURRENT FILING DATE:  2002-11-23
;  NUMBER OF SEQ ID NOS: 157
; SEQ ID NO 11
;   LENGTH: 2128
;   TYPE: DNA
;   ORGANISM: H. sapiens
;   FEATURE:
;   NAME/KEY: CDS
;   LOCATION: (146)...(1675)
US-10-303-266-11

  Query Match             99.9%;  Score 1528.4;  DB 7;  Length 2128;
  Best Local Similarity   99.9%;  Pred. No. 0;
  Matches 1529;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ATGCCGTCGGGCTTCCAACAGATAGGCTCCGAAGATGGGGAACCCCCTCAGCAGCGAGTG 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        146 ATGCCGTCGGGCTTCCAACAGATAGGCTCCGAAGATGGGGAACCCCCTCAGCAGCGAGTG 205

Qy         61 ACTGGGACCCTGGTCCTTGCTGTGTTCTCTGCGGTGCTTGGCTCCCTGCAGTTTGGGTAC 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        206 ACTGGGACCCTGGTCCTTGCTGTGTTCTCTGCGGTGCTTGGCTCCCTGCAGTTTGGGTAC 265

Qy        121 AACATTGGGGTCATCAATGCCCCTCAGAAGGTGATTGAACAGAGCTACAATGAGACGTGG 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        266 AACATTGGGGTCATCAATGCCCCTCAGAAGGTGATTGAACAGAGCTACAATGAGACGTGG 325

Qy        181 CTGGGGAGGCAGGGGCCTGAGGGACCCAGCTCCATCCCTCCAGGCACCCTCACCACCCTC 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        326 CTGGGGAGGCAGGGGCCTGAGGGACCCAGCTCCATCCCTCCAGGCACCCTCACCACCCTC 385

Qy        241 TGGGCCCTCTCCATGGCCATCTTTTCCGTGGGCGGCATGATTTCCTCCTTCCTCATTGGT 300
              |||||||||||| ||||||||||||||||||||||||||||||||||||||||||||||
Db        386 TGGGCCCTCTCCGTGGCCATCTTTTCCGTGGGCGGCATGATTTCCTCCTTCCTCATTGGT 445

Qy        301 ATCATCTCTCAGTGGCTTGGAAGGAAAAGGGCCATGCTGGTCAACAATGTCCTGGCGGTG 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        446 ATCATCTCTCAGTGGCTTGGAAGGAAAAGGGCCATGCTGGTCAACAATGTCCTGGCGGTG 505

Qy        361 CTGGGGGGCAGCCTCATGGGCCTGGCCAACGCTGCTGCCTCCTATGAAATGCTCATCCTT 420
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        506 CTGGGGGGCAGCCTCATGGGCCTGGCCAACGCTGCTGCCTCCTATGAAATGCTCATCCTT 565

Qy        421 GGACGATTCCTCATTGGCGCCTACTCAGGGCTGACATCAGGGCTGGTGCCCATGTACGTG 480
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        566 GGACGATTCCTCATTGGCGCCTACTCAGGGCTGACATCAGGGCTGGTGCCCATGTACGTG 625

Qy        481 GGGGAGATTGCTCCCACTCACCTGCGGGGCGCCCTGGGGACGCTCAACCAACTGGCCATT 540
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        626 GGGGAGATTGCTCCCACTCACCTGCGGGGCGCCCTGGGGACGCTCAACCAACTGGCCATT 685

Qy        541 GTTATCGGCATTCTGATCGCCCAGGTGCTGGGCTTGGAGTCCCTCCTGGGCACTGCCAGC 600
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        686 GTTATCGGCATTCTGATCGCCCAGGTGCTGGGCTTGGAGTCCCTCCTGGGCACTGCCAGC 745

Qy        601 CTGTGGCCACTGCTCCTGGGCCTCACAGTGCTACCTGCCCTCCTGCAGCTGGTCCTGCTG 660
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        746 CTGTGGCCACTGCTCCTGGGCCTCACAGTGCTACCTGCCCTCCTGCAGCTGGTCCTGCTG 805

Qy        661 CCCTTCTGTCCCGAGAGCCCCCGCTACCTCTACATCATCCAGAATCTCGAGGGGCCTGCC 720
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        806 CCCTTCTGTCCCGAGAGCCCCCGCTACCTCTACATCATCCAGAATCTCGAGGGGCCTGCC 865

Qy        721 AGAAAGAGTCTGAAGCGCCTGACAGGCTGGGCCGATGTTTCTGGAGTGCTGGCTGAGCTG 780
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        866 AGAAAGAGTCTGAAGCGCCTGACAGGCTGGGCCGATGTTTCTGGAGTGCTGGCTGAGCTG 925

Qy        781 AAGGATGAGAAGCGGAAGCTGGAGCGTGAGCGGCCACTGTCCCTGCTCCAGCTCCTGGGC 840
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        926 AAGGATGAGAAGCGGAAGCTGGAGCGTGAGCGGCCACTGTCCCTGCTCCAGCTCCTGGGC 985
```

```
Qy        841 AGCCGTACCCACCGGCAGCCCCTGATCATTGCGGTCGTGCTGCAGCTGAGCCAGCAGCTC 900
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        986 AGCCGTACCCACCGGCAGCCCCTGATCATTGCGGTCGTGCTGCAGCTGAGCCAGCAGCTC 1045

Qy        901 TCTGGCATCAATGCTGTTTTCTATTATTCGACCAGCATCTTCGAGACAGCAGGGGTAGGC 960
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1046 TCTGGCATCAATGCTGTTTTCTATTATTCGACCAGCATCTTCGAGACAGCAGGGGTAGGC 1105

Qy        961 CAGCCTGCCTATGCCACCATAGGAGCTGGTGTGGTCAACACAGTCTTCACCTTGGTCTCG 1020
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1106 CAGCCTGCCTATGCCACCATAGGAGCTGGTGTGGTCAACACAGTCTTCACCTTGGTCTCG 1165

Qy       1021 GTGTTGTTGGTGGAGCGGGCGGGGCGCCGGACGCTCCATCTCCTGGGCCTGGCGGGCATG 1080
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1166 GTGTTGTTGGTGGAGCGGGCGGGGCGCCGGACGCTCCATCTCCTGGGCCTGGCGGGCATG 1225

Qy       1081 TGTGGCTGTGCCATCCTGATGACTGTGGCTCTGCTCCTGCTGGAGCGAGTTCCAGCCATG 1140
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1226 TGTGGCTGTGCCATCCTGATGACTGTGGCTCTGCTCCTGCTGGAGCGAGTTCCAGCCATG 1285

Qy       1141 AGCTACGTCTCCATTGTGGCCATCTTTGGCTTCGTGGCATTTTTTGAGATTGGCCCTGGC 1200
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1286 AGCTACGTCTCCATTGTGGCCATCTTTGGCTTCGTGGCATTTTTTGAGATTGGCCCTGGC 1345

Qy       1201 CCCATTCCTTGGTTCATCGTGGCCGAGCTCTTCAGCCAGGGACCCCGCCCGGCAGCCATG 1260
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1346 CCCATTCCTTGGTTCATCGTGGCCGAGCTCTTCAGCCAGGGACCCCGCCCGGCAGCCATG 1405

Qy       1261 GCTGTGGCTGGTTTCTCCAACTGGACGAGCAACTTCATCATTGGCATGGGTTTCCAGTAT 1320
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1406 GCTGTGGCTGGTTTCTCCAACTGGACGAGCAACTTCATCATTGGCATGGGTTTCCAGTAT 1465

Qy       1321 GTTGCGGAGGCTATGGGGCCCTACGTCTTCCTTCTATTTGCGGTCCTCCTGCTGGGCTTC 1380
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1466 GTTGCGGAGGCTATGGGGCCCTACGTCTTCCTTCTATTTGCGGTCCTCCTGCTGGGCTTC 1525

Qy       1381 TTCATCTTCACCTTCTTAAGAGTACCTGAAACTCGAGGCCGGACGTTTGACCAGATCTCA 1440
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1526 TTCATCTTCACCTTCTTAAGAGTACCTGAAACTCGAGGCCGGACGTTTGACCAGATCTCA 1585

Qy       1441 GCTGCCTTCCACCGGACACCCTCTCTTTTAGAGCAGGAGGTGAAACCCAGCACAGAACTT 1500
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1586 GCTGCCTTCCACCGGACACCCTCTCTTTTAGAGCAGGAGGTGAAACCCAGCACAGAACTT 1645

Qy       1501 GAGTATTTAGGGCCAGATGAGAACGACTGA 1530
              ||||||||||||||||||||||||||||||
Db       1646 GAGTATTTAGGGCCAGATGAGAACGACTGA 1675
```

```
RESULT 4
US-10-067-449-9
; Sequence 9, Application US/10067449
; Publication No. US20030166258A1
; GENERAL INFORMATION:
;  APPLICANT: Muller, Gunter
;  APPLICANT:  Koller, Klaus-Peter
;  APPLICANT:  Boles, Eckhard
;  APPLICANT:  Wieczorke, Roman
;  APPLICANT:  Dlugai, Silke
;  TITLE OF INVENTION: Saccharomyces cerevisiae Yeast Strain With Functional Expression of a
;  TITLE OF INVENTION:  GLUT Promoter
;  FILE REFERENCE: DEAV2001/00002
;  CURRENT APPLICATION NUMBER: US/10/067,449
;  CURRENT FILING DATE:  2002-02-05
;  PRIOR APPLICATION NUMBER: DE 101 06 718.6
;  PRIOR FILING DATE: 2001-02-14
;  NUMBER OF SEQ ID NOS: 18
;  SOFTWARE: PatentIn version 3.0
; SEQ ID NO 9
;   LENGTH: 7828
;   TYPE: DNA
;   ORGANISM: Homo sapiens
US-10-067-449-9

  Query Match             99.9%;  Score 1528.4;  DB 6;  Length 7828;
  Best Local Similarity   99.9%;  Pred. No. 0;
  Matches 1529;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 ATGCCGTCGGGCTTCCAACAGATAGGCTCCGAAGATGGGGAACCCCCTCAGCAGCGAGTG 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
```

About Entrez
Text Version
Entrez PubMed
Overview
Help | FAQ
Tutorials
New/Noteworthy
E-Utilities
PubMed Services
Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
Special Queries
LinkOut
My NCBI
Related Resources
Order Documents
NLM Mobile
NLM Catalog
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

1: Biochim Biophys Acta. 1997 Feb 21;1324(1):111-9. Related Articles, Links

Characterization of rat Glut4 glucose transporter expressed in the yeast Saccharomyces cerevisiae: comparison with Glut1 glucose transporter.

Kasahara T, Kasahara M.

Laboratory of Biophysics, School of Medicine, Teikyo University, Tokyo, Japan.

Rat Glut4 glucose transporter was expressed in the yeast Saccharomyces cerevisiae, but was retained in an intracellular membranous compartment and did not contribute to glucose uptake by intact cells. A crude membrane fraction was prepared and reconstituted in liposome with the use of the freeze-thaw/sonication method. D-glucose-specific, cytochalasin B inhibitable glucose transport activity was observed. Kinetic analysis of D-glucose transport was performed by an integrated rate equation approach. The K(m) under zero-trans influx condition was 12 +/- 1 mM (mean +/- S.E., n = 3) and that under equilibrium exchange condition was 22 +/- 3 mM (n = 4). D-glucose transport was inhibited by 2-deoxy-D-glucose or 3-O-methyl-D-glucose, but not by D-allose, D-fructose or L-glucose. Cytochalasin B, phloretin and phlorizin inhibited D-glucose transport, but neither p-chloromercuribenzoic acid (pCMB) (0-0.1 mM) nor p-chloromercuribenzene sulfonic acid (pCMBS) (0-1.0 mM) inhibited this activity. High concentrations of HgCl2 were required to inhibit D-glucose transport (IC50, 370 microM). Comparing these properties to those of rat Glut1 we found two notable differences; (1) in Glut1, K(m) under zero-trans influx was significantly smaller than that under equilibrium exchange but in Glut4 less than two-fold difference was seen between these two K(m) values; and (2) Glut1 was inhibited with pCMB, pCMBS and low concentrations of HgCl2 (IC50, 3.5 microM), whereas Glut4 was almost insensitive to SH reagents. To examine the role of the exofacial cysteine, we replaced Met-455 of Glut4 (corresponding to Cys-429 of Glut1) with cysteine. The mutated Glut4 was inhibited by pCMB or pCMBS and the IC50 of HgCl2 decreased to 47 microM, whereas K(m), substrate specificity and the sensitivity to cytochalasin B were not significantly changed, indicating that the existence of exofacial cysteine contributed only to increase SH sensitivity in Glut4.